



STATE OF MONTANA
DEPARTMENT OF ADMINISTRATION
INFORMATION TECHNOLOGY SERVICES DIVISION



Brian Schweitzer
Governor

State of Montana

Department of Natural Resources and Conservation



AGENCY BIENNIAL REPORT

FOR FY2010

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STATE OF MONTANA

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INFORMATION TECHNOLOGY SERVICES DIVISION

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EXECUTIVE SUMMARY

The Montana Department of Natural Resources accomplished a number of major Information Technology Objectives during the 2008-2009 Biennium.

Major strides were made in development of a Geographic Information System tied into state GIS resources. A GIS coordinator was hired and developed GIS training for staff across the state. An agency GIS infrastructure and GIS plan were developed in cooperation with ITSD and work is ongoing in developing GIS data and framework layers for agency, citizen and business use.

Upgrades or enhancements were completed for the following applications:

- Contracts and Grants System (CGS) which replaced CLOGS for tracking payments on contract and grants.
- F300 Fire Dispatch system.
- HRA – Hazard Reduction Agreement tracking and accounting
- State tree nursery inventory and sales
- Water rights payments
- River Modeling
- Restoration application and database
- GIS interfaces and access to data

The agency also began use of video conferencing during this biennium and the new technology was embraced by agency staff. The original system of six sites was expanded in the next phase of IT planning to include more than 15 sites.

One initiative from the 2008 DNRC IT plan was completed (update of key agency servers) and the other two initiatives were started and are progressing. They will provide important updates for the Trust Land Management System for the agency as well as improvements to the Forest Management Software used by Trust Land and Forestry division staff.

Not all projects included in the 2008 IT plan and 2009 update were completed. Some were delayed because of funding or lack of staff. Others were deferred until more information could be gathered on the scope of the project. Most projects the agency began were completed within scope or are in progress and tracking toward timely completion.

Overall, IT and application improvements have allowed DNRC staff to provide better service to customers in a timelier manner.

SECTION 1: AGENCY IT PLAN ACCOMPLISHMENTS – GOALS & OBJECTIVES

Complete this section by copy and pasting the Goals and Supporting Objective/Actions listed in section 4.1 of your agency's 2008 plan. After each supporting objective, insert the two additional questions for accomplishments and status. Answer these two questions.

1.1 Goals

Goal Number 1:

ITG 1 Develop DNRC-wide applications that meet agency business requirements, reduce cost and improve efficiency in operations

Description: Examine current systems such as document storage and archiving, data collection, data distribution, common-application needs and redundant systems to provide common IT systems that are used across divisions.

Benefits: Eliminates redundant systems, provides for central development of shared resources. Streamlines training, upgrades and maintenance of applications.

Does this goal support the State IT Strategic Plan? If so, how? Develop IT resources in an organized, deliberative and cost-effective manner.

Supporting Objective/Action

ITO 1-1 DNRC photo and image database and application

Accomplishments: The goal of this project was to create a central, searchable repository of agency photos in electronic format. Accomplishment – 80%.

Status – Completed: This application was built by a contractor under the State Master IT contract and deployed in the agency. Expanded use of the system is planned during the current biennium.

Supporting Objective/Action

ITO 1-2 Optical scanning and storage of critical department documents

Accomplishments: Several small scanning systems in support of business processes have been complete. These provide staff access to critical documents via online searches. A task force on Document Imaging and Records retention was formed and agency focus has shifted to implementing document retention schedules for each division. DNRC's goal is to establish a document scanning and storage system or process that provides for archival storage of documents and easy retrieval. Accomplishment – 50%.

Status – Ongoing: While several smaller document tracking systems have been built the agency still needs a comprehensive document management and storage system.

Supporting Objective/Action

ITO 1-3 Expenditure tracking system for divisional and bureau budgets

Accomplishments: There has been minimal work on this objective because of budget constraints. There are issues with defining the scope of the project and funding. Accomplishment – 10%.

Status – Delayed: This project has been postponed until FY2011 because of budget constraints. A future goal will be development of project requirements and a decision will then be made on proceeding with either internal development, purchase of COTS software or hiring a contractor.

Supporting Objective/Action

ITO 1-4 Deploying a receivables system for creating and tracking invoices.

Accomplishments: Minimal progress because of budget constraints. There has been no clearly defined need for this project. Accomplishment – 10%.

Status – Deferred: This project has been postponed indefinitely.

Supporting Objective/Action

ITO 1-5 Expand Video Conferencing

Accomplishments: DNRC has expanded its video conferencing operations to include 14 locations in 10 cities. Accomplishment – 100%.

Status – Completed: This project has exceeded its original objective with staff in the agency embracing the use of video conferencing, greater demand for video conferencing equipment and substantial savings for the agency and state in travel and lodging costs.

Goal Number 2:

ITG 2 Expand agency information available over the Internet and expand access to eGovernment services for DNRC.

Description: Demand is increasing for electronic access to agency information and services. The goal is to expand information available on the agency website and create at least three eGovernment services for the public by 2010.

Benefits: Electronic access to information and services provided by DNRC to the public

Does this goal support the State IT Strategic Plan? If so, how? Improve Government Services.

Supporting Objective/Action

ITO 2-1 Expand DNRC eGovernment services available to the public

Accomplishments: DNRC has completed several eGovernment services including: payment of Water Rights fees and placing state nursery orders. Accomplishment – 50%.

Status – Ongoing: Many efforts to develop eGovernment services have been delayed because of budget and staff constraints. Ongoing efforts to find services that can be offered online.

Supporting Objective/Action

ITO 2-2 Expand the Accomplishments database to cover all divisions.

Accomplishments: DNRC interest in the Accomplishment application and database has not materialized. Very little progress made or anticipated. Accomplishment – 20%.

Status – Deferred: Other projects have been given a higher priority because of budget and staff constraints. The need for this application and database will be reviewed in FY12-13.

Goal Number 3:

ITG 3 DNRC Enterprise GIS

Description: Continue implementation of an Enterprise GIS system for DNRC to provide an organization-wide approach that facilitates the integration, implementation, operation and management of tabular and spatial information.

Benefits: All divisions within DNRC will benefit – particularly Water Resources, Trust Lands, Forestry and Oil & Gas Conservation. The public will benefit from GIS information in DNRC applications. Other state agencies will not have to recreate GIS data available from DNRC.

Does this goal support the State IT Strategic Plan? If so, how? Yes. Development of GIS is being done in an organized, deliberative and cost-effective manner in cooperation with ITSD. It also Improves Government Services through sharing of geographic data across the Enterprise.

Supporting Objective/Action

ITO 3-1 Continue to establish a central GIS infrastructure

Accomplishments: DNRC has worked with ITSD to establish a central GIS infrastructure. Adding data to the central infrastructure and work on various GIS programs and data layers is ongoing. Accomplishment – 90%.

Status – Ongoing: DNRC continues working with ITSD on this GIS environment and expanded access to agency GIS data for internal staff, other agencies and the public.

Supporting Objective/Action

ITO 3-2 Establish central pool of GIS equipment use across the agency

Accomplishments: A pool system for equipment created and checkout system in use. A pair of GPS units were purchased and deployed in the NWLO for fire season. The equipment will be loaned out to other offices for special projects during FY2010. Future purchases are dependent upon funding. Accomplishment – 100%.

Status – Ongoing: Additional equipment will be made available as purchased.

Supporting Objective/Action

ITO 3-3 Develop a simple mapping program for use in various division applications

Accomplishments: The first versions of a Simple GIS mapping application have been built and are being tested. Additional versions and program-specific toolbars are planned. Accomplishment – 80%.

Status – Ongoing: The first versions of the applications are in use and will be the basis for ongoing development.

Supporting Objective/Action

ITO 3-4 Establish methodology for including GIS systems in other DNRC applications.

Accomplishments: A GIS group is active within DNRC. They are examining current applications and business processes to determine where GIS may improve agency services to businesses and individuals. Accomplishment – 70%.

Status – Ongoing:

Supporting Objective/Action

ITO 3-5 Create centralized GIS data sets for DNRC and other agencies.

Accomplishments: A GIS working group is active within DNRC. They are examining current applications and business processes to determine where GIS may improve agency services to businesses and individuals. Accomplishment – 100%.

Status – Ongoing: A data set for Conservation Districts is completed and published. Additional data sets will be developed as budget and staffing allow.

Supporting Objective/Action

ITO 3-6 Continue work on a system to store and share historical aerial photos

Accomplishments: DNRC has storage for these photos on its servers and with ITSD. Accomplishment – 100%.

Status – Completed: DNRC is examining methods of expanding use of these photos.

Supporting Objective/Action

ITO 3-7 Establish a thin-client system for access to GIS systems.

Accomplishments: DNRC has worked with ITSD to establish Citrix access for employees to GIS applications. Accomplishment – 100%.

Status – Ongoing: DNRC continues working with ITSD on improved access and functionality.

Goal Number 4:

ITG 4 Improve efficiency of WRD IT applications

Description: Continue legislatively mandated water rights adjudication and expand access to water rights, water use, stream flow, water marketing information used inside the department and by the public

Benefits: Improved access to information used in decision making within the agency and by the water courts. Improved access to information by citizens and businesses.

Does this goal support the State IT Strategic Plan? If so, how? Yes. Improves Government Services and provides for organized deliberative and cost-effective development of IT resources.

Supporting Objective/Action

ITO 4-1 Apply METRIC model for use within WRD and RWRCC

Accomplishments: This project is delayed due to lack of funding. Other modeling systems are being used instead. Accomplishment 20%

Status – Delayed:

Supporting Objective/Action

ITO 4-2 Continue document scanning for Water Rights

Accomplishments: DNRC continued to scan Water Rights Documents into the state FileNet system. This program is on track. Accomplishment – 60%.

Status – Ongoing: Progress is being made on this project with completion anticipated by 2013

Supporting Objective/Action

ITO 4-3 Establish Water Rights Complaint and Enforcement Database

Accomplishments: This project was delayed due to lack of funding and other priorities for Water Rights database development

Status – Delayed

Supporting Objective/Action

ITO 4-4 Milk-St. Mary River Model Evaluation and Enhancement

Accomplishments: Simulating the upper St. Mary River system efficiently with a lowest to highest priority in a way that ensures modeled delivery of apportioned water to Canada and optimal delivery of U.S. water to the Milk River via the St. Mary Canal. Simulating the lower Milk River in a general way that operates the river and Fresno and Nelson Reservoirs to deliver water to the irrigation districts. Accomplishment – 100%.

Status – Complete: This modeling system is in place. We anticipate annual updates to refine the model.

Supporting Objective/Action

ITO 4-5 Provide public access to WRD Stream Flow Database

Accomplishments: An internal database was developed in 2007 for storage of stream flow data and associate information. This database has served the agency well and demand for a public interface has slowed. Accomplishment – 60%.

Status – Delayed: The public access portion of the program is delayed due to lack of funding and programmer/GIS resources. Projected completion in June 2013.

Goal Number 5:

ITG 5 Improve programs for managing Contracts, Grants, Loans, Restoration Projects and other systems used to manage DNRC resources

Description: Continue improvements on the CGL tracker system. Build a Restoration database or system for tracking restoration projects in DNRC and other agencies and build new applications needed to meet the ongoing needs of the Centralized Services Division.

Benefits: All divisions within DNRC will benefit – as this provides better contract grant and loan tracking. The primary beneficiary of CGL tracker are CSD and CARDD.

Does this goal support the State IT Strategic Plan? If so, how? Yes. Develop IT Resources in an organized, deliberative and cost-effective manner.

Supporting Objective

ITO 5.1 Improve CGL tracker and add the Loans module

Accomplishments: Updates to the application were made and it was renamed to CGS or Contracts and Grants System. Loans were not incorporated because a stand-alone application serves this need. Accomplishment – 90%.

Status – Completed: Updates to this program are anticipated annually.

Supporting Objective

ITO 5.2 Migrate CLOGS from an Access front-end to a web-based application

Accomplishments: CLOGS was converted to a .NET application. Accomplishment – 100%.

Status – Completed:

Supporting Objective

ITO 5.3 Provide web-access for grantees to portions of CGL Tracker

Accomplishments: This project has been deferred because of interest in a Grants tracking application from CARDD. Accomplishment – 0%.

Status – Deferred: Waiting on needs assessment and funding for Grants tracker application.

Supporting Objective

ITO 5.4 Establish a Restoration Projects application and database.

Accomplishments: This application and database showing restoration projects in the state was completed and then enhanced. Updates to the search functions, accounting information and interface are planned as funding becomes available. Accomplishment – 90%.

Status – Completed: Updates to this program are anticipated annually.

Supporting Objective

ITO 5.5 Establish a program for tracking the revolving fund

Accomplishments: The goal is improved tracking the state revolving fund. Accomplishment – 10%.

Status – Delayed: Project delayed pending staff availability. .

Goal Number 6:

ITG 6 Enhance the Trust Lands Management System (TLMS)

Description: Continue improvement and addition of new business management processes to TLMS.

Benefits: Improved management of state trust land assets, staff access to trust data and customer access to trust land information.

Does this goal support the State IT Strategic Plan? If so, how? Yes. Expansion of trust land management and analysis capabilities of TLMS improves the ability of division staff to be well-informed with pertinent data regarding land management decisions, thereby meeting customer expectations for reliable and timely delivery of quality services and information. Continues agency emphasis on customer focus by providing electronic access to more information and services related to trust land management.

Supporting Objective

ITO 6.1 Add additional data and spatial information to TLMS

Accomplishments: Updates to the application were made and spatial data was added to the database. Accomplishment – 90%.

Status – Ongoing: Updates and addition of spatial data is expected to continue throughout the life of the application.

Supporting Objective

ITO 6.2 Continue Integration of TLMS with Enterprise GIS

Accomplishments: Updates to the application were made and spatial data was added to the database. Accomplishment – 90%.

Status – Ongoing: Updates and addition of spatial data is expected to continue throughout the life of the application.

Supporting Objective

ITO 6.3 Provide system for data input from electronic data recorders (EDRs or Tablet PCs)

Accomplishments: A system for inputting data from mobile devices is in test. Further development is anticipated, but delayed by staff work on updating TLMS. Accomplishment – 50%.

Status – Ongoing: Work on improving data input from mobile devices is expected through the life of the application.

Supporting Objective

ITO 6.4 Continue and expand web access to select TLMS data

Accomplishments: A variety of TLMS data is accessible via the web. Further development dependent on finishing an upgrade to the TLMS application and database. Accomplishment – 80%.

Status – Ongoing: Contingent on time and resources.

Supporting Objective

ITO 6.5 Link TLMS to scanned land ownership and management documents

Accomplishments: Several small scanning systems in support of business processes have been complete. This includes scanned lease documents tied to TLMS. These provide staff access to critical documents via online searches. A task force on Document Imaging and Records retention was formed and agency focus has shifted to implementing document retention schedules for each division. DNRC's goal is to establish a document scanning and storage system or process that provides for archival storage of documents and easy retrieval. Accomplishment – 50%.

Status – Ongoing: While several smaller document tracking systems have been built the agency still needs a comprehensive document management and storage system.

Supporting Objective

ITO 6.6 Division wide capability to scan, store and retrieve critical records

Accomplishments: Several small scanning systems in support of business processes have been complete. These provide staff access to critical documents via online searches. A task force on Document Imaging and Records retention was formed and agency focus has shifted to implementing document retention schedules for each division. DNRC's goal is to establish a document scanning and storage system or process that provides for archival storage of documents and easy retrieval. Accomplishment – 50%.

Status – Ongoing: While several smaller document tracking systems have been built the agency still needs a comprehensive document management and storage system.

Supporting Objective

ITO 6.7 Convert TLMS front-end from Access 2003 to .NET

Accomplishments: Agency developers are working on this project and expect to complete the coding by the end of FY10. Various modules will be switched over as they are built and tested. Accomplishment – 50%.

Status – Ongoing: In progress with internal developers and external contractors.

Supporting Objective

ITO 6.8 User Friendly Interface for Forest Management Software

Accomplishments: Agency developers are working on this project and expect to complete the coding by the end of FY10. Various modules will be switched over as they are built and tested. Accomplishment – 50%.

Status – Ongoing: In progress with internal developers and external contractors.

Supporting Objective

ITO 6.9 Provide electronic payment capability for select leasing payments

Accomplishments: This project is on hold for completion of the TLMS system upgrades. Once the .NET TLMS application is in place the agency will be able to devote staff and resources to online payment systems. Accomplishment – 10%.

Status – Delayed: Waiting on staff and resources.

Supporting Objective

ITO 6.10 Develop a timber sale/timber permit project process and data sharing tool

Accomplishments: As this tool is developed it is posted to TLMS and provided for staff use. Project managers and ID team members are using the tool successfully and it has improved efficiency. All projects meet minimum information and data standards, and there is improved access to information and data. Accomplishment – 80%.

Status – Ongoing: In progress with internal developers and external contractors.

Goal Number 7:

ITG 7 Update and improve applications critical to operations of Forestry

Description: Continued work on applications that support the efforts of the Forestry division to fight fires, manage fire costs, safely deploy personnel and operate the state nursery.

Benefits: Improved fiscal management of divisional operations. Integration of separate systems and improved customer service.

Does this goal support the State IT Strategic Plan? If so, how? Yes. Efficient development of IT resources and improved government services.

Supporting Objective/Action

ITO 7-1 Update and improve the F-300 System.

Accomplishments: This system has been updated and is in operation. Accomplishment – 100%.

Status – Completed: Updates will take place as needed.

Supporting Objective/Action

7-2 Update and improve the Nursery Customer and Orders database.

Accomplishments: A COTS software package was purchased and installed to better manage customer orders and inventory for the DNRC seedling nursery Accomplishment – 100%.

Status – Complete: Updates will take place as needed. System will be moved to a new server in FY10.

Supporting Objective/Action

ITO 7-3 Create an electronic flight log system.

Accomplishments: A pilot of a flight log system was done in FY09 and it was determined that a custom application was needed to support DNRC aircraft flight logs. An SOW was prepared and posted through the CEP process and a contract awarded in July 2010 for building the system. Accomplishment – 40%.

Status – Ongoing: A contractor is in place and development is taking place. A completed flight log system is planned for implementation prior to the 2011 fire season.

Supporting Objective/Action

ITO 7-4 Update and improve the Hazard Reduction Agreement application and database

Accomplishments: The DNRC Hazard Reduction Agreement application and database were updated through the state CEP process and the application is in operation. Accomplishment – 100%.

Status – Complete: Updates will take place as needed.

Supporting Objective/Action

ITO 7-5 Expand use of Fleet Maintenance software or purchase software

Accomplishments: This system was replaced by a statewide fleet tracking system mandated by the Governor in mid 2010. The new system is in place for tracking DNRC vehicles. The older Fleet Maintenance software will be used to help track new equipment builds by the EDC in Missoula and for tracking assets not covered by the statewide fleet software. Accomplishment – 100%.

Status – Complete:

Supporting Objective/Action

ITO 7-6 Move MTCARS to a web-based system

Accomplishments: Development of a new MTCARS system has been delayed because of staff and resource limitations. Accomplishment – 0%.

Status – Delayed: A review of the agency fire cost tracking needs is planned for the fall of 2010.

Supporting Objective/Action

ITO 7-7 Statewide Assessment of Forest Resources

Accomplishments: An expert analysis program was developed in 2010 with the assistance of an outside contractor. This system will be used to aid in identifying priority forest needs. Accomplishment – 100%.

Status – Complete: Updates will take place as needed.

Goal Number 8:

ITG 8 Determine new information needs of the Conservation and Resource Development Division (CARDD) and build or modify applications to meet those needs.

Description: CARDD has specific needs to manage project grants, work with conservation districts and handle water reservations that need to be improved. CARDD will work with IT staff to determine whether current systems can be modified to meet division needs or new applications built to store and process information.

Benefits: CARDD will see efficient use of information, the ability to report on grant and loan activity and better management of Montana land and water resources.

Does this goal support the State IT Strategic Plan? If so, how? Yes. Develop IT Resources in an organized, deliberative and cost-effective manner.

Supporting Objective

ITO 8.1 Add location and project information to CGL tracker

Accomplishments: This project was put on hold as CARDD investigated building its own Grant Tracking system. This system would provide for tracking grant applications, creating reports and tracking funding. Work was delayed because of efforts needed on grants under the American Recovery and Reinvestment Act (ARRA) Accomplishment – 20%.

Status – Complete: This project will be reviewed in FY11.

Supporting Objective

ITO 8.2 Develop a database of Conservation Districts

Accomplishments: This project has migrated into a GIS application of Conservation Districts. The Conservation District boundaries framework layer is largely complete and being used internally in DNRC. Accomplishment – 90%.

Status – Complete: Updated as needed.

Supporting Objective

ITO8.3 Develop a water reservations database for CARDD and conservation districts

Accomplishments: Project delayed pending funding and staff. Accomplishment –0%.

Status – Delayed

Supporting Objective

ITO 8.4 Continue development of the 310 Permit system

Accomplishments: This project was put on hold awaiting funding. Accomplishment – 60%.

Status – Delayed: Current application in use but with limited data.

Goal Number 9:

ITG 9 Manage IT needs of Reserve Water Rights Compact Commission Sunsetting

Description: Determine what RWRCC information needs to be preserved and what information needs to migrate to the Water Resources Division. Finish work on RWRCC projects

Benefits: Orderly migration of information from RWRCC as it sunsets in 2009. **The sunset date has been extended until 2013.**

Does this goal support the State IT Strategic Plan? If so, how? Yes. Efficient development of IT resources and improved government services.

Supporting Objective/Action

ITO 9-1 Finish work on the Water Resource Survey.

Accomplishments: This project is delayed along with the Sunsetting of RWRCC. Staff changes and division priorities mean this project will be reviewed in FY11. Accomplishment – 20%.

Status – Complete: This project will be reviewed in FY11.

SECTION 2: IT INITIATIVES STATUS UPDATE

2.1 IT Initiatives *(Taken from 2008 plan and 2009 update)*

Title: User Friendly Interface for Forest Management Software

Status: Ongoing.

Description: Increase Technical Services Section (TSS) budget (Org 6053) for fiscal year 2010 to purchase a site license or 25 copies of Forest Biometrics Research Institutes, Forest Projection System (FPS) software and hire a computer programmer for 12 months through a temporary services employment company. The computer programmer would be directed by TSS to develop a user friendly interface for FPS that can be used by DNRC foresters and specialists to plan and evaluate silvicultural practices.

Funded for FY 2010-2011 - \$168,000

Title: Rewrite Trust Land Management System (TLMS) to use latest smart client technology

Status: Ongoing.

Description: The current TLMS system is written with an Access front end and SQL Server 2000 database. The system requires updating to a new web-based front end and migration to the latest version of the SQL Server database.

Funded for FY2010-2011 - \$170,000

Title: Replace DNRC Servers

Status: Completed. Additional servers in smaller offices were replaced with operating funds during FY10 and FY11.

Description: Approximately 20 DNRC Servers were purchased in 2005 and will need to be replaced in the next biennium. It also provides for deploying a stronger backup and disaster recovery system for DNRC. The system would involve 4 servers with disk storage and tape backup units in Kalispell, Missoula, Helena and Billings able to backup servers located in DNRC offices across the state.

Funding allocated for 6 servers. - \$105,000

SECTION 3: ADDITIONAL INFORMATION - OPTIONAL

During the biennium, DNRC developed a Geographic Information Systems (GIS) Strategic Plan. That plan was updated in March 2010 to reflect the work done in GIS in the agency. Here is the introduction from the Montana Department of Natural Resources and Conservation GIS Strategic Plan.

Executive Summary

We plan to increase the use of GIS within the department through the identification of business processes that will benefit from the introduction of GIS. This is the consulting between the GIS Coordinator, GIS professionals and GIS users in the divisions and bureaus that happens every day.

Our strategy to improve and manage the use of GIS is to continue implementation of an Enterprise GIS via a system of hardware, software, data and personnel. This system includes the statewide Environmental Systems Research Institute License Agreement; Service Level Agreements with Department of Administration's Information Technology Services Division; data creation, storage and dissemination; application development; and education and professional development. In order to advance Enterprise GIS, an assessment of current and near-future goals must be established, prioritized and implemented with alacrity.

Strategy

To improve decision-making and reduce costs by implementing an Enterprise GIS via a system of hardware, software, data and personnel.

Rationale

The implementation of an Enterprise GIS provides an organization-wide approach that facilitates the integration, implementation, operation, and management of tabular and spatial information. In this environment, employees access centrally hosted databases and applications, create and maintain data within published formats and guidelines, and produce maps based on standardized templates.

An enterprise system provides many benefits and opportunities:

- streamlined work processes
- enabled integration of data and systems
- improved access to and management of data
- reduced duplication of efforts and costs in hardware, software and personnel
- rapid automated updating of data
- increased accuracy of data and
- leveraged data for decision-making and analysis.

Implementation

We participate in the statewide Environmental Systems Research Institute (ESRI) License Agreement (ELA), which is in its third year. We currently maintain more than 300 licenses of ESRI software products on our license manager server allocated to roughly 250 users throughout the department. GIS has a presence within the DNRC.

An enterprise approach requires a shift toward team-based goals and victories and adopting a longer term approach. As a team we must understand that accomplishments and output will be restricted while contributing to the enterprise, but that there will be payoffs when we arrive at plateaus along the way in the form of increased quantity of output as the building blocks for our work are readily available, understood, and accessible and increased quality of output as the building blocks are more accurate and consistent in nature. This return on investment will be how we justify our current efforts based on anticipated future gains.

In joining a team we open ourselves up to scrutiny. In making the enterprise contract, we give our individual work a broader audience from which to receive feedback. As a team we must support the individual in his or her endeavors by providing training and access to a shared knowledge base of experience. As individuals, we will need to pull our own weight, offer help where our expertise applies, and form relationships based on trust with other team members. Most importantly, we need to make sure that we share in the success and failures of the enterprise as a team.